# THE EFFECT OF IDLE PLANT ON COSTS AND PROFITS

By H. L. Gantt,

New York City.

The theory which has been so long and tenaciously held by cost accountants, that all the expenses of operating a factory must be included in the cost of the output produced, has the effect of showing low costs when the factory is running at its full or normal capacity, and of showing high costs when the output is small. The small output is due usually to diminution in demand, which can, as a rule, be stimulated only by reduction in selling price, which the selling department invariably recognizes.

Under this theory of cost-keeping, the selling department and the cost department are, during times of depression, continually at odds, with the result that the selling department is often prohibited from selling goods because the cost department states that there is no profit in such goods; and more than one manufacturing industry has suffered severely from this policy. The fallacy involved in this method of cost-keeping is so subtle that for a long time it was not recognized that there was a fallacy, although the hard common sense of many manufacturers realized that there was something wrong about their cost accounting methods and oftentimes ignored the results obtained by them.

During the last few years many leading manufacturers and accountants have recognized the existence of the fallacy, and some have actually pointed out what the fallacy is. The financier justly claims that if the plant is to be prosperous the output must be sold at a sufficient price to pay for the operation of the plant and to leave a reasonable profit. In order to do this the selling price when the product is small must naturally be greater per unit of product than if the product were larger, but in such times it is usually impossible to get a larger unit selling price.

A few years ago many financiers and industrial leaders thought they had solved the problem when they had adopted a fixed selling price, which they maintained during times of prosperity and times of depression. An illustration of this is the price of steel rails

fixed by the United States Steel Corporation, but the slow business recovery from the depression of 1907 and 1908 does not indicate that this policy has been entirely successful. When a plant is operating at less than its full capacity, it is quite evident that the expense of maintaining a certain portion of that plant in idleness must be borne somehow. The old theory that it must be borne as a part of the cost of the articles produced is rapidly giving way to the theory that it is a business expense and not chargeable to the articles produced.

Under this theory of expense distribution a plant which was running at only a small fraction of its capacity might make a good profit on the articles it produced and yet lose money, because of the necessity of deducting from the profits the expense of maintaining a large unused plant and the permanent organization needed to operate it. Another way of expressing the newer idea is that the output of a plant should be charged with only that expense needed to produce it, and that all other expense must be carried as a business expense and put in the profit and loss column. Under this theory it is readily seen that costs will remain constant whether the plant is operating as a whole or only in part unless there is a change in price of material, rate of wages, or method of manufacture; and the salesman will have a definite cost on which to base his selling price.

Idle plant is just as much a source of expense under the new theory as under the old, but under the new it is charged to the business, whereas under the old it is charged into the cost of the product. It is easily seen that a manufacturing concern which bases its policy on the newer theory will very soon get the better of those rivals, which adhere to the old method of cost accounting.

The above discussion leads directly to the consideration of another very important subject, namely, is it ever profitable to manufacture at a loss? This sounds like a flat contradiction, but it is really a subject of great importance. For instance, let us assume that it would cost us $100,000 per year to maintain our plant in idleness but in condition to run, and to maintain the skeleton organization of officers needed to put the plant in operation again. Would it not be better for us to operate that plant during the year and maintain our whole organization, if the loss incurred thereby would not exceed $100,000? If at the end of the year,

business should be offered two plants, one of which had followed the first policy, and the other had followed the second policy, the one which had followed the second policy would certainly be in far better position to take advantage of new business than the other, for it would not only be spared the expense of hiring and training a new set of operatives, which is always very great, but it would be in a position to execute the orders promptly. It is clear that, although each plant had actually lost the same amount of money during the year, the one that had its organization intact and ready to fill orders would be ahead of the other from a financial standpoint by the cost of hiring and training operatives, and from a business standpoint of being ready to fill orders promptly.

It would therefore seem that to shut a plant down, from whatever cause, is a very risky proceeding unless it is not intended to open up again. Mr. Carnegie recognized this fact and his action in accordance with it was one of the most potent factors in enabling him to get the better of his competitors.

At the meeting of the American Society of Mechanical Engineers at Buffalo on June 25, 1915, one of those who discussed my paper on "The Relation between Production and Cost" made the statement that it was the duty of an industry to take care, during times of depression, of those who had served that industry in times of prosperity. It is not my intention to emphasize the morality of this subject, but I believe it is possible to demonstrate that a proper industrial policy will show that it is to the advantage of a manufacturer to do as far as possible just what has been contended.

It is an economic principle that the consumption of articles increases rapidly with the reduction in cost to the consumer. If, therefore, during times of depression manufacturing companies will recognize that they cannot expect to make profits when nobody else is making profits, and are willing to accept their portion of the loss which is incident to the depression, by selling at a lower price, they can many times give their employees constant employment, and at the end of the period of depression find themselves in good condition to take advantage of returning prosperity and make up the losses incurred, while their more conservative competitors, who shut down their plants, are preparing to manufacture. Moreover, such a policy as this would, during times of depression, continue the production of wealth on a much larger scale than has heretofore been

customary, and even though the wealth thus produced would not accumulate in the hands of those who are accustomed to receive it, it would nevertheless be an asset to the country and make possible the more rapid return of prosperity.

The policy of holding up selling prices to a point at which few can afford to buy is, the writer believes, not only detrimental to the country at large but in the long run to the individual concerns doing it. It is a form of protection designed to offset or counteract the natural law of the survival of the fittest, and whether applied to individuals, industries or nations this law is inexorable, and any economic or financial policy founded on the theory that it can be done away with must ultimately fail.

The conclusion, therefore, from the above is that continued employment and hence the continued production of wealth is more important to the country at large, and hence to individuals in that country, than large profits which necessarily go to a comparatively small number.